

# *Encore<sup>tm</sup> 2*

## Portable Printer

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# User's Manual



**Zebra Technologies Corporation**

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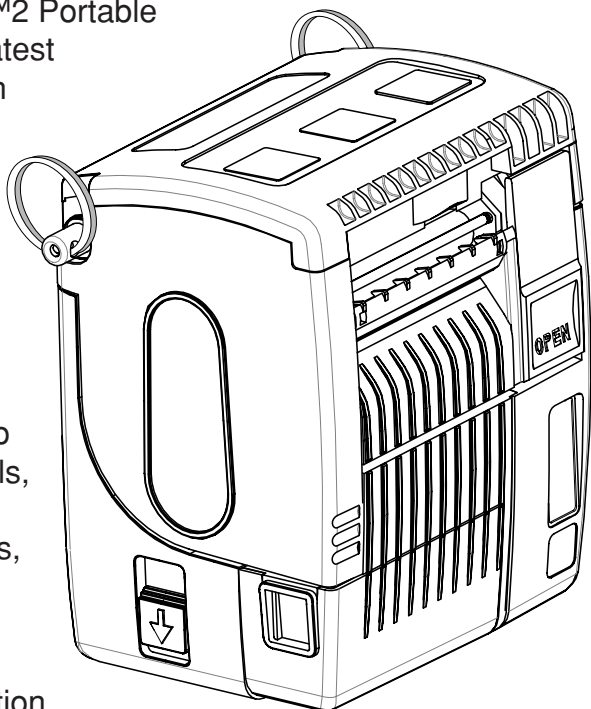
# **Operation Section**

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## INTRODUCTION

The Encore™2 Portable Printer is the latest development in direct thermal printing technology from Zebra Technologies Corporation. This portable printer is ideally suited to print shelf labels, tickets, price change stickers, receipts, linerless labels and any other mobile application where on-site printing is required.



*ENCORE™2 PRINTER*

Integrated battery status and hardware diagnostics circuits, as well as its compact size, make the Encore 2 ideal for mobile printing. The Encore 2 can be configured for wireless communications via Bluetooth™ or infrared (IrDA) interfaces.

This manual should be read in its entirety before attempting operation of the printer. Further information regarding this printer's features and operation can be found in the Mobile Printing Systems Programming Manual available on diskette as part DISK-PTRPRO-MAN or on our website at:

*<http://www.zebra.com/SS/manuals.htm>.*

# PRINTER SPECIFICATIONS

## Physical

Height:	5.1" (130 mm)
Width:	4.0" (102 mm)
Depth:	3.12" (79 mm)
Weight:	1.3 lbs. (.58 kg) with batteries/ no media

## Environmental

Operating temperature: 14° to 104°F (-10° to 40°C)

Storage temperature: -4° to 140°F (-20° to 60°C)

Relative humidity: 95% non-condensing

The Encore 2 automatically compensates for head temperature when printing. The printer has protection circuitry to prevent damage due to excessive print head temperatures.

## Printing Characteristics

Print Head Life: (estimated)	1,964,160"(50 Km) (nominal)
Technology:	Direct Thermal
Print Speed:	2-3 IPS (50.8-76.2 mm)
Print Head Width:	1.9" (48 mm)
Print Head Density:	203 DPI (8 dots/mm)
Number of Dots:	384

## Communications Interface

- Built-in RS-232 port for one-way or two-way communication to terminal or other host up to 38.4K BPS.
- Wireless: Infrared communications via IrDA specifications, or Bluetooth™ protocol.



## Communications Protocol

The Encore 2 supports RTS/CTS (hardware) and XON/XOFF handshaking protocols to synchronize with the host terminal. The handshaking protocol and the baud rate is programmable. The default communications parameters are:

Handshaking = RTS/CTS

Baud Rate = 9,600

Parity = None

Data Bits = 8

Stop Bits = 1

## Pin Assignments

The following are the pin assignments for the 8-pin DIN RS232C serial connector.

Pin Number	Pin Name	Signal Type	Signal Description
1	RXD	input	Receive Data
2	TXD	output	Transmit Data
3	CTS	input	Clear To Send from host
4	RTS	output	Request To Send set high when printer is ready to accept command/data
5	GND		Ground
6	NC		No Connect
7	DSR	input	Data Set Ready Low to high transition turns printer on, High to low transition turns printer off (if enabled)
8	DTR	output	Data Terminal Ready set high when printer is on (set to battery voltage for "S" versions)

## Media Type

- Paper Labels
- Synthetic Labels
- Plain paper
- Tags
- Two-part thermal receipts
- Linerless labels (on linerless models only)

## Media Handling

Media Width:	Max. 2.12" (54 mm) Min. 1.0" (25 mm)
Maximum Print Width:	1.9" (48 mm)
Media Core Size:	.75" (19 mm)

- Adjustable stock width
- Easy stock loading system
- Automatic label peeler
- Optional label present sensor

## Software Features

- Vertical or horizontal printing
- Left, right, or center justification
- Scale to fit
- Concatenation
- Line print mode
- Programmable label odometer with on-demand terminal reporting
- Serial number reporting to terminal on demand
- Automatic print head temperature compensation
- Programmable inactivity shut-off
- Out of paper/head-up error LED indicator
- Power On/Off from terminal or built-in keypad
- Black bar/gap sensing

## **Formats**

- 25 Resident fonts
- Optional international character fonts
- Flash memory for down-loadable programs, label formats, fonts and graphics
- Fully scalable fonts
- Built-in graphics support

## **Accessories and Options**

- Single battery pack fast charger
- Four battery pack fast charger
- Extra NiMH battery pack
- Belt or shoulder strap options
- Protective environmental boot
- Soft Case
- Variety of interface cables
- IrDA Option
- Bluetooth™ standard short range radio frequency (SRRF) interface option

## **Power**

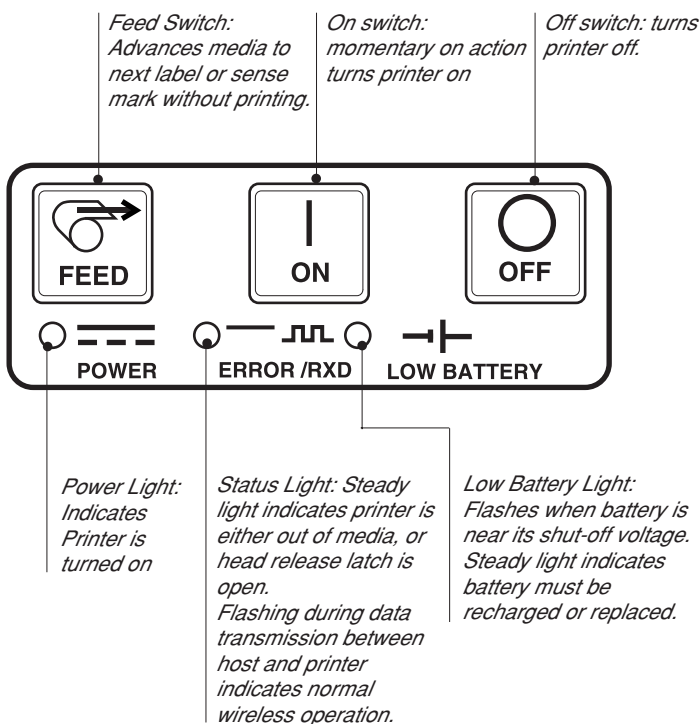
The Encore 2 utilizes a removable battery pack. If not connected to a terminal with DTR present, the printer will automatically power off to conserve battery life. The time-out value can be programmed from the host terminal; the factory default time-out is two minutes.

Additional power features include:

- Charge duration of 600 to 800 labels
- Low battery indicated by flashing LED and reported to terminal on demand
- Power on/off controlled from terminal or built-in keypad

# CONTROLS

## Keypad Functions



## Self Test

The Encore 2 can perform a self test which will print a solid black line to insure all elements of the print head are working, and then print out the version of software loaded in the printer. Refer to the Troubleshooting section for more details on interpreting the self-test.

The self test is activated by the following key sequence:

1. Press the "FEED" key
2. While still holding down the "FEED" key, turn on the printer by pressing and releasing the "ON" key.
3. Release the "FEED" key

The Encore 2 will perform the self test and then remain on.

## BATTERIES AND CHARGING

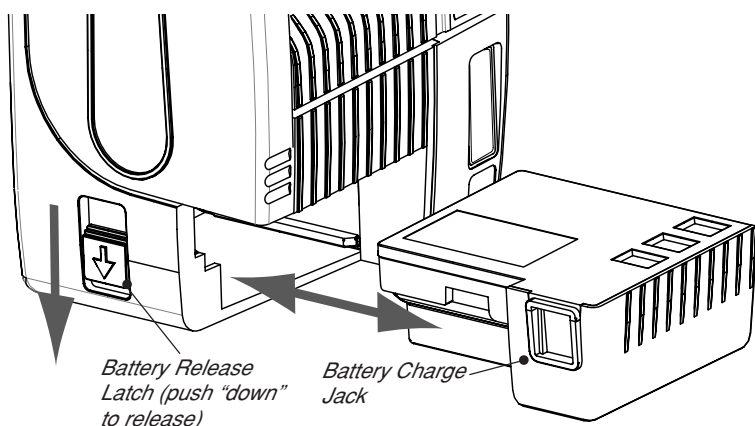
### Removing and Replacing Batteries

Batteries are removed from the Encore 2 by the following procedure:

1. Face the front of the printer. Push the battery release button on the right side of the printer down as indicated by the arrow.
2. Firmly slide the battery pack out of the printer until it is clear while still pressing the battery release button.

Batteries are replaced by the following procedure:

1. Align the battery pack to the printer so that the battery contacts (the metal plates on the top of the battery) are oriented towards the front of the printer.
2. Slide the pack into the printer until it latches with a distinct “click”.



*ENCORE 2 BATTERY INSTALLATION*

### Conditioning



### IMPORTANT



**Encore 2 batteries must be cycled a minimum of three times before maximum capacity is realized.** A battery is cycled by fully charging, then fully discharging it through normal use.

## Chargers

Listed below are the specifications for the Encore 2 chargers:

### **UCN72-4:** (p/n series AC15482-tab)

(Part numbers will vary depending on specific country of use. Consult factory for complete part numbers.)

This charger is designed to charge up to four batteries simultaneously. Battery packs may be charged separately or while plugged into the printer. Typical charge time is 90 minutes. Switch selectable 110/220 V.A.C. input voltage. Supplied with line cords compatible with most international standards.



***Do not attempt to charge batteries while printing. Attempting to print while charging batteries with the UCN72-4 Charger can result in unreliable charging.***

### **UCN72:** (p/n series AT15244-tab)

(Part numbers will vary depending on specific country of use. Consult factory for complete part numbers.)

UC72N is a wall mounted single charger with universal 110 to 230, 50-60 Hz. VAC input. Multiple plug configurations comply with most international standards.



***Do not attempt to charge batteries while printing. Attempting to print while charging batteries with the UC72N charger can result in unreliable charging.***

## Low Battery Shutdown

The Encore 2 monitors battery charge level in software and will cause the Power LED to flash as the batteries become depleted. The printer should be shut off and the battery pack recharged. The printer will automatically shut itself off if the batteries become severely discharged.



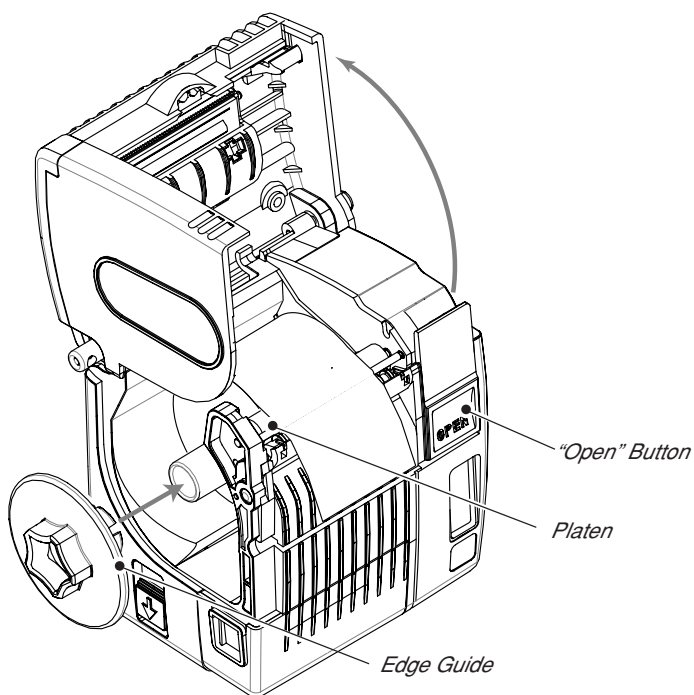
***The optional real time clock will maintain its settings for approximately fifteen minutes while batteries are being replaced.***

## Battery Safety Warnings

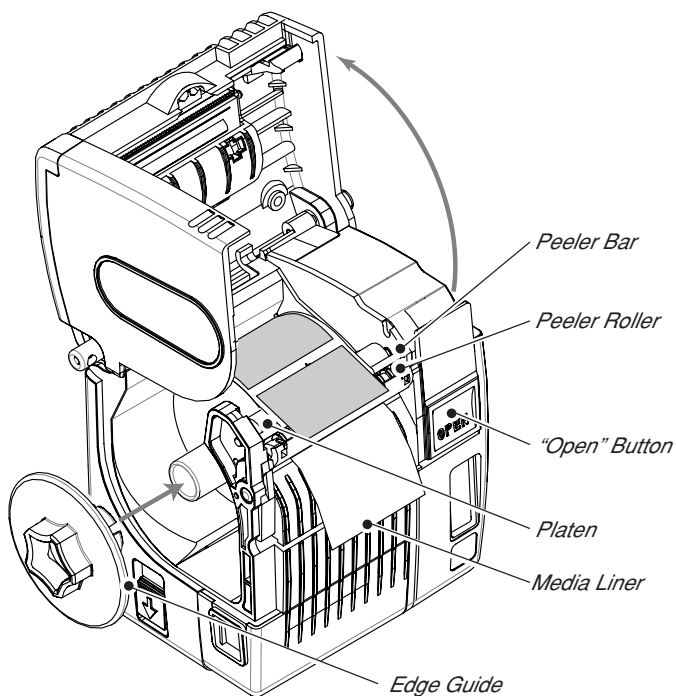


*Battery terminals are recessed to prevent accidental short circuiting of the battery. Allowing these terminals to contact conductive material will create a short circuit which could cause burns and other injuries or could start a fire.*

*Use of any charger not approved specifically by Zebra for use with Encore NiMH batteries could cause damage to the battery pack or the printer and will void the warranty.*



*MEDIA INSTALLATION: PEELER NOT IN USE*



*MEDIA INSTALLATION: PEELER IN USE*



## INSTALLATION OF MEDIA

The Encore 2 can print continuous batches of labels or print and separate labels automatically using its built in label peeler. The following details how media installation for these two modes.

### **Peeler not in use** (Journal, linerless, or batch quantities of labels)

1. Turn unit off.
2. Press and hold the “Open” button on the front of the unit. Rotate the top back to reveal the paper compartment
3. Remove the edge guide and install the paper roll on the spindle. Lead the free end over the rubber roller (platen). Paper should feed from the top of the paper roll.
4. Slide the edge guide back over the spindle and against the roll of media. Roll should be against the inside wall of the paper compartment.
5. Close the top and insure it is securely latched before beginning to print.

### **Peeler in use** (Do not use the label peeler when printing a batch quantity of labels)

1. Turn unit off.
2. Press and hold the “Open” button on the front of the unit. Rotate the top back to reveal the paper compartment
3. Remove the edge guide and install the paper roll on the spindle. Lead the free end over the rubber roller (platen). Paper should feed from the top of the paper roll.
4. Lift peeler assembly by depressing “Open” button on front of unit. Lead edge of stock over the peeler bar and under the grooved peeler roller. Stock should emerge from the slot in the front cover.

*continued next page*

### *Installation of Media (continued)*

5. Slide the edge guide back over the spindle and against the roll of media. Roll should be against the inside wall of the paper compartment.
6. Close the top and insure it is securely latched before beginning to print. Insure labels feed over the peeler bar and separate from the liner as the printer is used.

Units equipped with label presence sensor: If the sensor is activated, further printing will be inhibited until the most recently printed label is removed.

# TROUBLESHOOTING

## **Self Test:**

Perform the self test as described in the Controls section. The unit should print a line of interlocking “X’s followed by two reports. The first report indicates model, ROM version, serial number, baud rate, etc. The second report contains application information. If no second report appears, there is no application loaded.

## **Troubleshooting Guide**

### ***No power***

- Check battery, recharge or replace as necessary.

### ***Media does not feed:***

- Be sure print head is closed and latched.
- Check spindle holding media for any binding.
- If unit is equipped with label presence sensor:
  - Insure most recently printed label is removed.
  - Insure label sensor is not blocked.

### ***Poor or faded print:***

- Clean print head.
- Check battery/replace.
- Check quality of media.

### ***Partial/missing print:***

- Check media alignment
- Clean print head.
- Insure printhead is properly closed and latched.

### ***Garbled print:***

- Check baud rate.

*continued next page*

**No print:**

- Check baud rate
- Replace battery
- Check cable to terminal
- Invalid label format or command structure — use Hex Dump Mode for troubleshooting.

**Reduced battery life after charging**

- If battery is one to two years old, short life may be normal aging.
- Replace battery.

**Error light flashing**

- No application: reload program.
- If using wireless communications: normal indication data is being received.

**Error light always on:**

- Check that media is loaded and that the print head is closed and securely latched.

**Skips labels:**

- Check media for top of form sense mark or label gap.
- Check that the print field has not been exceeded on label.
- Insure the bar/gap sensor is not blocked or malfunctioning

**Communication Error:**

- Check that media is loaded, head is closed and error light is off.
- Check baud rate.
- Replace cable to terminal.

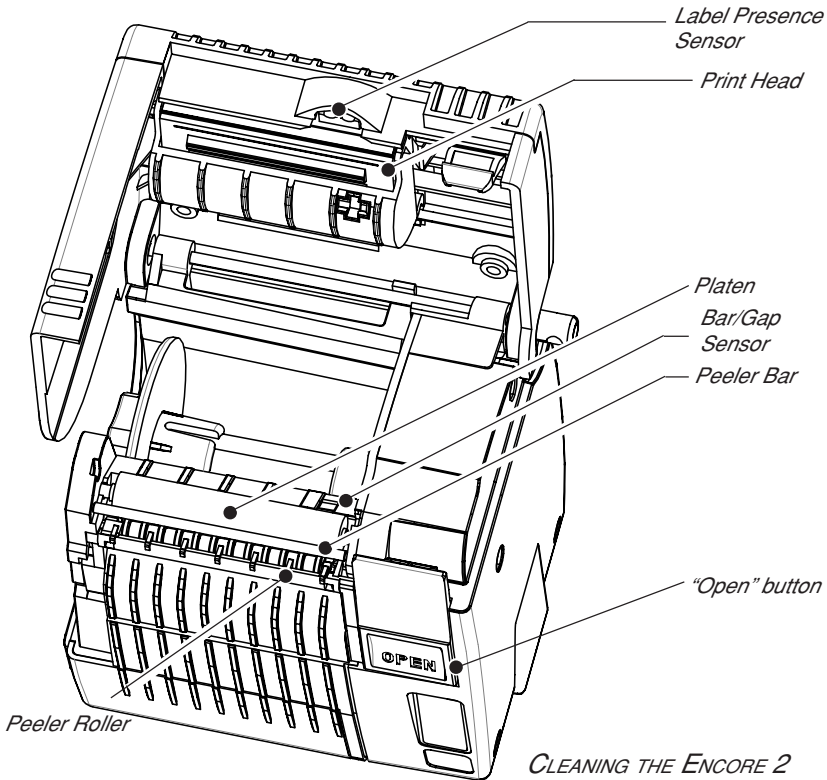
**Label Jam:**

- Open print head. Generously apply alcohol to printer in area of jammed label.



***Never use any sharp objects on printer mechanism as it could damage the print head or the platen. Use only alcohol and a cotton swab for cleaning the printer.***

## MAINTENANCE



*CLEANING THE ENCORE 2*

The Encore 2 should be cleaned periodically (approximately every two weeks), depending on usage and the type of media being employed.

Components of the printer that require periodic maintenance are:

- The print head
- Platen (print roller) on printers configured for lined media only. Linerless printers require no regular maintenance for the platen.
- Label peeler components
- The bar/gap and label presence sensors.

When cleaning, use only isopropyl alcohol, as included in the Cleaning Kit. Always use Zebra label or ticket stock for maximum print quality and extended printer life.



**Never use any sharp objects on printer mechanism as it could damage the print head and platen. Use only the supplied cleaning pen or a cotton swab saturated with alcohol for cleaning. Always turn the printer off prior to any cleaning operation.**

### **Cleaning the print head:**

- Open the printer. Press the “Open” button on the front of the unit and swing the print head open.
- Use the alcohol and cotton swabs supplied in the Cleaning Kit to clean the surface of the print head, the platen (print roller), the peeler bar and the peeler roller.

### **Cleaning the platen (print roller):**

*Applies to printers configured for lined media only*

- Open the printer. Press the “Open” button on the front of the unit and swing the print head open.
- Use the cleaning pen or a cotton swab saturated with alcohol to clean the platen. Rotate it to expose the entire surface.

### **Cleaning the peeler roller:**

*Applies only to units with label peeler option*

- Saturate a cotton swab with alcohol. Gently clean the ridges of peeler roller with swab to remove label adhesive residue. Rotate the peeler roller as needed.

### **Cleaning Sensors**

*Bar/Gap Sensor:*

- The Bar/Gap sensor is located in the right side of the media compartment behind the platen. Blow out any dust deposits carefully, then finish cleaning with a swab saturated in alcohol.

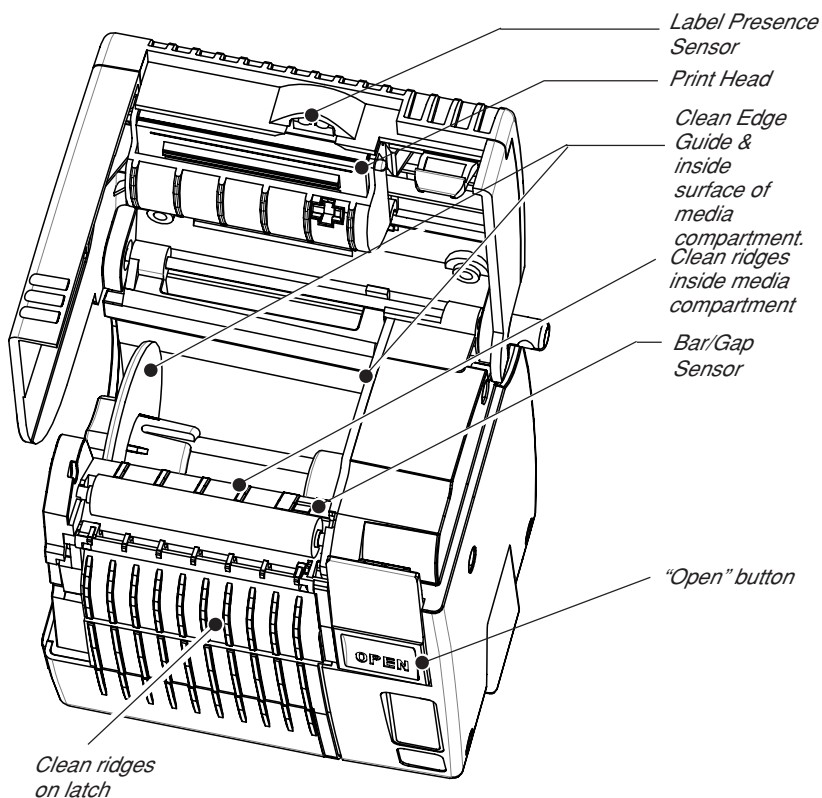
*Label Presence Sensor:*

- The label presence sensors are located on the outside of the print head. Remove any material blocking the lenses, blow out any dust deposits carefully, then finish cleaning with a swab saturated in alcohol.

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## Linerless Media Printers

Printers using linerless media require more frequent cleaning. Linerless media deposits adhesive which must be removed for optimum performance. Linerless printers can be identified by a platen which is *not* black, or by reading the unit's fifteen digit Product Configuration



*CLEANING THE LINERLESS MEDIA ENCORE 2*

Code (PCC) label on the back of the printer. PCC digit "8" will be "B", "D", "F", or "H" for linerless printers.

- Open the printer. Press the "Open" button on the front of the unit and swing the print head open.
- Remove the media and edge guide
- When cleaning, use only isopropyl alcohol, as in the Cleaning Pen provided with each printer. Surfaces



inside the media compartment that come in contact with the linerless media adhesive should be cleaned, along with:

- Ridged section on the latch
- Area around the Bar/Gap Sensor and Label Presence Sensor
- Printhead
- Inside surface of the edge guide



***Note: It is not necessary to clean the platen on linerless units. The platen material is self cleaning and will not require constant maintenance.***

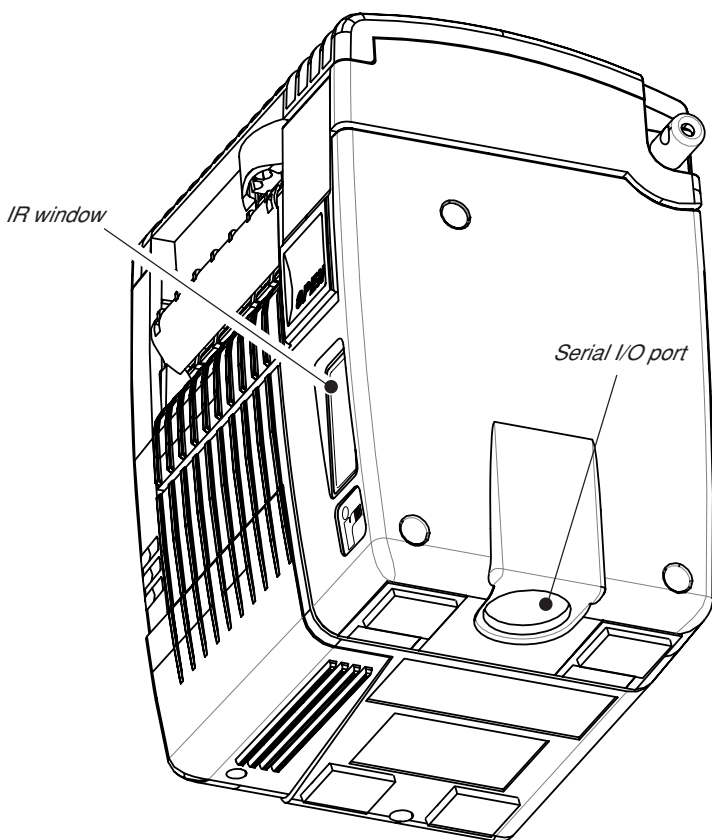
***Never use any sharp objects on printer mechanism as it could damage the print head and platen. Use only the supplied cleaning pen or a cotton swab saturated with alcohol for cleaning. Always turn the printer off prior to any cleaning operation.***

Allow printer to dry before resuming printing.

## COMMUNICATING TO THE PRINTER

The printer must establish communications with a host terminal which sends the data to be printed. Communications occur in three basic ways:

- By a cable between the printer and its host terminal
- Infrared (usually by means of the industry standard IrDA protocol)
- Using Bluetooth™ radio frequency protocol



*ENCORE 2 COMMUNICATION PORTS - IrDA EQUIPPED UNIT ILLUSTRATED*

## **Cable Communications**

All Encore 2 printers can communicate by cable; the specific cable supplied with your printer will vary with the host terminal. The 8- pin circular connector on your communications cable plugs into the serial communications port on the bottom of the Encore 2 . It is keyed to assure correct alignment; do not try to force it if it does not plug in. The other end of the cable must be plugged into the host terminal. Refer to pages A-1 through A-3 for more information on the various communications cables offered for the Encore 2 .

Communication between the terminal and the printer is controlled by the applications running on the terminal and the printer.

*Continued on next page*

## **IR Communications**

Printers equipped for infrared (IR) communications are identified by a small “IR” logo under the unit’s IR window. IR allows wireless communications between the printer and the host terminal. IR units can also communicate with a cable as detailed above, however, IR functions are disabled when the cable is plugged in. Encore 2 units with the IR option can be configured to conform to the standard IrDA communications protocol

### *Linking a Printer to an IrDA Host*

IrDA compliant terminals will automatically initiate communications to the printer. First insure that there is a direct line of sight between the printer and the terminal that will be sending data. The IR window on the front of the Encore 2 must face the corresponding window on the terminal to properly send and receive signals. An IrDA compliant terminal will seek out any linkable devices and establish communications between them, even turning the printer on if necessary.

## Bluetooth™ Networking Overview

“Bluetooth” is a worldwide standard for the exchange of data between two devices via radio frequencies. Bluetooth radios are relatively low powered to help prevent interference with other devices, limiting the range of a Bluetooth device to about 10 meters (about 32 feet).

Bluetooth compliant printers equipped are identified by a small “Bluetooth” logo under the unit’s IR window.

### **Exposure to Radio Frequency Radiation**

***The radiated output power of this internal wireless radio is far below the FCC radio frequency exposure limits. Nevertheless, this Bluetooth radio must be used in such a manner that the antenna is 2.5 cm or further from the human body.***

***The radio and antenna are mounted internally in this printer in such a way that, when the printer is used in a standard configuration (belt clip, soft case, shoulder strap), the 2.5 cm distance from the users body will be met. Do not use the printer in an unauthorized manner.***

***The internal wireless radio operates within guidelines found in radio frequency safety standards and recommendations. The level of energy emitted is far less than the electromagnetic energy emitted by wireless devices such as mobile phones.***

Bluetooth software runs in the background in order to respond to connection requests, which one device (known as the *master* or the *client*) must request from another. The second device (the *slave* or the *server*) then accepts or rejects the connection. A Bluetooth enabled Encore will always act as a slave device. The miniature network created by this connection is sometimes referred to as a “piconet” and can consist of several Bluetooth enabled devices.

Each Encore with the Bluetooth option has a unique Bluetooth Device Address (BDA) loaded into its radio module when manufactured.

*Continued on next page*

### *A Typical Bluetooth Connection Sequence*

In this simplified sequence “Joe’s Terminal” is a Bluetooth ready hand held terminal running an application that needs access to a printer.

1. Joe’s Terminal performs a search of its “piconet” (a Device Inquiry) and determines that there are four Bluetooth devices in the vicinity.

2. Joe’s Terminal queries each of the four devices to determine which services they provide (a Service Discovery). The Bluetooth enabled Encore “Sandy’s Printer” offers the printing service.

3. Joe’s Terminal sends a print connection request to Sandy’s Printer.

4. Sandy’s Printer evaluates the request and determines that Joe’s Terminal is permitted to use the print service, *but only if the correct password is submitted.*

5. Sandy’s Printer queries Joe’s Terminal for the password (Authentication).

6. Joe’s Terminal returns the correct password and the print connection is established.

7. After Joe’s Terminal is finished printing it disconnects with Sandy’s Printer. (Some Bluetooth services disconnect automatically, others must be closed manually.)

There are several layers of security in the Bluetooth system, so this sequence may not be a completely accurate representation of how your printer may function in a Bluetooth environment. For the most part, communications using the Bluetooth protocol are initiated and processed without any operator intervention, much like the IrDA system described previously.



# Appendices

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# APPENDIX A

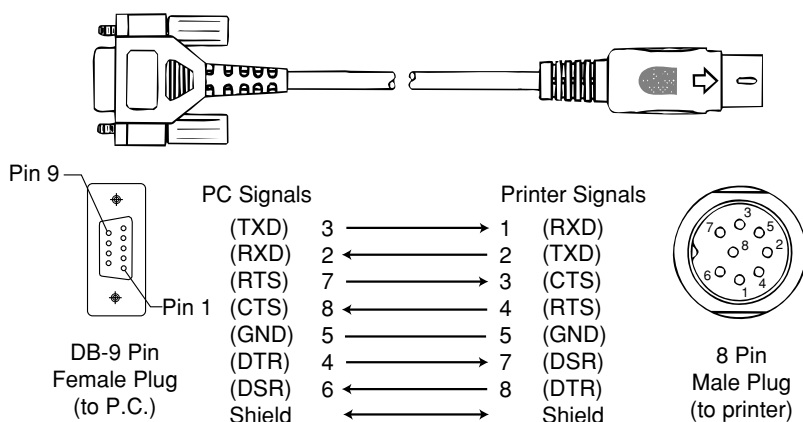
## INTERFACE CABLES

Part Number BL11757-000

8-Pin DIN to 9-Pin DB PC Cable

This part is also available as a coiled cable under  
Part Number BL15063-1.

For Use With a Personal Computer



# APPENDIX A

## INTERFACE CABLES

Terminal	Cable Part Number	Cord Lgth/Type	Terminal Connector	Printer Connector	Notes
COMPSEE					
Apex II	BL12093-3	8' Coiled	RJ45	8 Pin DIN	
NORAND					
RT1100/1700 Series	BL11537-1	8' /Coiled	6 Pin MiniDIN	8 Pin DIN Over-molded	
RT1100/1700 Series	BL11537-2	12' /Coiled	6 Pin MiniDIN	8 Pin DIN Over-molded	
RT5900 Series	BL12803-1	8' /Coiled	15 Pin D-Sub	8 Pin DIN	
RT1100/1700 Series	BL12804-1	8' /Coiled	6 Pin MiniDIN	8 Pin DIN -Locking	
RT1100/1700 Series	BL13298-1	8' /Coiled	6 Pin MiniDIN	8 Pin DIN Over-molded	Auto ON/OFF
RT1100/1700 Series	BL13309-1	8' /Coiled	6 Pin Mini DIN	8Pin DIN	Auto ON/OFF
SYMBOL					
PDT3300 Series	BL11391-000	8' /Coiled	DB25 male	8 Pin DIN	Must be used with Symbol RS232
PDT4100 Series	BL11757-000	6' /Straight	9 Pin DB Fem.	8 Pin DIN	Adapter - Symbol PN#25-12059-01
PDT3100/3500 /6100 Series	BL12093-1	8' /Coiled	RJ45	8 Pin DIN	a. Power On/Off (+5V) b. Used for the Percon Falcon
PDT3100 Series	BL12093-2	8' /Coiled	RJ45	8 Pin DIN	Power On/Off (DTR Line)
SPT1700 Series	BL15483-1	9' /Coiled	Cradle	8 Pin DIN	No Power On/Off (DTR Line)
SPT2700 Series	BL15482-1	9' /Coiled	Cradle	8 Pin DIN	Power On/Off (DTR Line)
LRT/LDT3800 Series	CC11371-3	6' /Coiled	PIM Optical	8 Pin DIN	"S" Printers Only
LRT/LDT3800 Series (2 Way)	CC11371-4	6' / Coiled	PIM Optical	8 Pin DIN	"S" Printers Only

# APPENDIX A

## INTERFACE CABLES (continued)

Terminal	Cable Part Number	Cord Lgth/Type	Terminal Connector	Printer Connector	Notes
SYMBOL (CONT.)					
LRT/LDT3800 & 6800 Series	CC11371-5	6' / Coiled	PIM Optical	8 Pin DIN	"S" Printers Only
TEKLOGIC					
7030 ILR	BL13285-2	Coiled	36 Pin IDC Fem	8 Pin DIN	
7025 ILR	BL13285-1	Coiled	15 Pin DB male	8 Pin DIN	
TELXON					
960	BL11122-1	8' / Coiled	RJ45	8 Pin DIN	
960SL Adapter for BL1122-1	CC13711-1	n/a	n/a	n/a	
960 (BL1122-1) & 960SL (CC13711-1)	CP74005	n/a	n/a	n/a	
960	BL12996-1	8' / Coiled	RJ45	8 Pin DIN-Locking	
860 & 912	CL11314-000	8' / Coiled	DB25	8 Pin DIN	

## APPENDIX B

### MEDIA SUPPLIES

To insure maximum printer life and consistent print quality and performance for your individual application, it is recommended that only media produced by Zebra be used. These advantages include:

- Consistent quality and reliability of media products.
- Large range of stocked and standard formats.
- In-house custom format design service.
- Large production capacity which services the needs of many large and small media consumers including major retail chains world wide.
- Media products that meet or exceed industry standards.

For more information call Zebra Technologies Corporation at +1.866.230.9495 (U.S., Canada and Mexico) and ask to speak to a Media Sales Representative.

## APPENDIX C

### MAINTENANCE SUPPLIES

In addition to using quality media provided by Zebra, it is recommended that the print head be cleaned as prescribed in the maintenance section. The following items are available for this purpose:

- Cleaning Pen (10 pack), Reorder No. AN11209-1  
*(Recommended for use with Bravo™, Cameo™ and Encore™ printers.)*
- Cleaning Kit with Cleaning Pen, and Cotton Swabs, Reorder No. AT702-1  
*(Recommended for use with Bravo™, Cameo™ and Encore™ printers.)*

## APPENDIX D

### PRODUCT SUPPORT

Contact the Help Desk at:

Zebra Technologies Corporation  
30 Plan Way  
Warwick, Rhode Island 02886-1012 USA  
Telephone: +1 401.739.5800  
Fax: +1 401.732.7808  
e-mail: [risupport@zebra.com](mailto:risupport@zebra.com)

In Europe:

Zebra Technologies Europe, Limited  
Zebra House  
The Valley Centre, Gordon Road  
High Wycombe  
Buckinghamshire HP13 6EQ, United Kingdom  
Telephone: +44 1494 768298  
Fax: +44 1494 768210  
e-mail: [tseurope@zebra.com](mailto:tseurope@zebra.com)  
Ask for Customer Support

# PATENT INFORMATION

This product and/or its use may be covered by one or more of the following US patents and corresponding international patents worldwide

D275,286	5,029,183	5,364,133	5,543,610	6,034,708
D347,021	5,047,617	5,367,151	5,545,889	6,036,383
D389,178	5,103,461	5,372,439	5,552,592	6,057,870
D430,199	5,113,445	5,373,148	5,570,123	6,068,415
D433,702	5,140,144	5,378,882	5,578,810	6,070,805
3,964,673	5,132,709	5,396,053	5,589,680	6,095,704
4,019,676	5,142,550	5,396,055	5,612,531	6,109,801
4,044,946	5,149,950	5,399,846	5,642,666	6,123,471
4,360,798	5,157,687	5,408,081	5,657,066	6,147,767
4,369,361	5,168,148	5,410,139	5,768,991	6,151,037
4,387,297	5,168,149	5,410,140	5,790,162	6,201,255 B1
4,460,120	5,180,904	5,412,198	5,791,796	6,231,253 B1
4,496,831	5,229,591	5,415,482	5,806,993	6,261,009
4,593,186	5,230,088	5,418,812	5,813,343	6,261,013
4,607,156	5,235,167	5,420,411	5,816,718	6,267,521
4,673,805	5,243,655	5,436,440	5,820,279	6,270,072 B1
4,736,095	5,247,162	5,444,231	5,848,848	6,285,845 B1
4,758,717	5,250,791	5,449,891	5,860,753	6,292,595
4,816,660	5,250,792	5,449,893	5,872,585	6,296,032
4,845,350	5,262,627	5,468,949	5,874,980	6,364,550
4,896,026	5,267,800	5,479,000	5,909,233	6,379,058 B1
4,897,532	5,280,163	5,479,002	5,976,720	6,409,401 B1
4,923,281	5,280,164	5,479,441	5,978,004	6,411,397 B1
4,933,538	5,280,498	5,486,057	5,995,128	6,428,227 B2
4,992,717	5,304,786	5,503,483	5,997,193	
5,015,833	5,304,788	5,504,322	6,004,053	
5,017,765	5,321,246	5,528,621	6,010,257	
5,021,641	5,335,170	5,532,469	6,020,906	



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